SPEC® CINT2006 Result
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NEC Corporation

Express5800/E110b-1
(Intel Xeon L3406)

SPECint®_rate2006 =   48.3

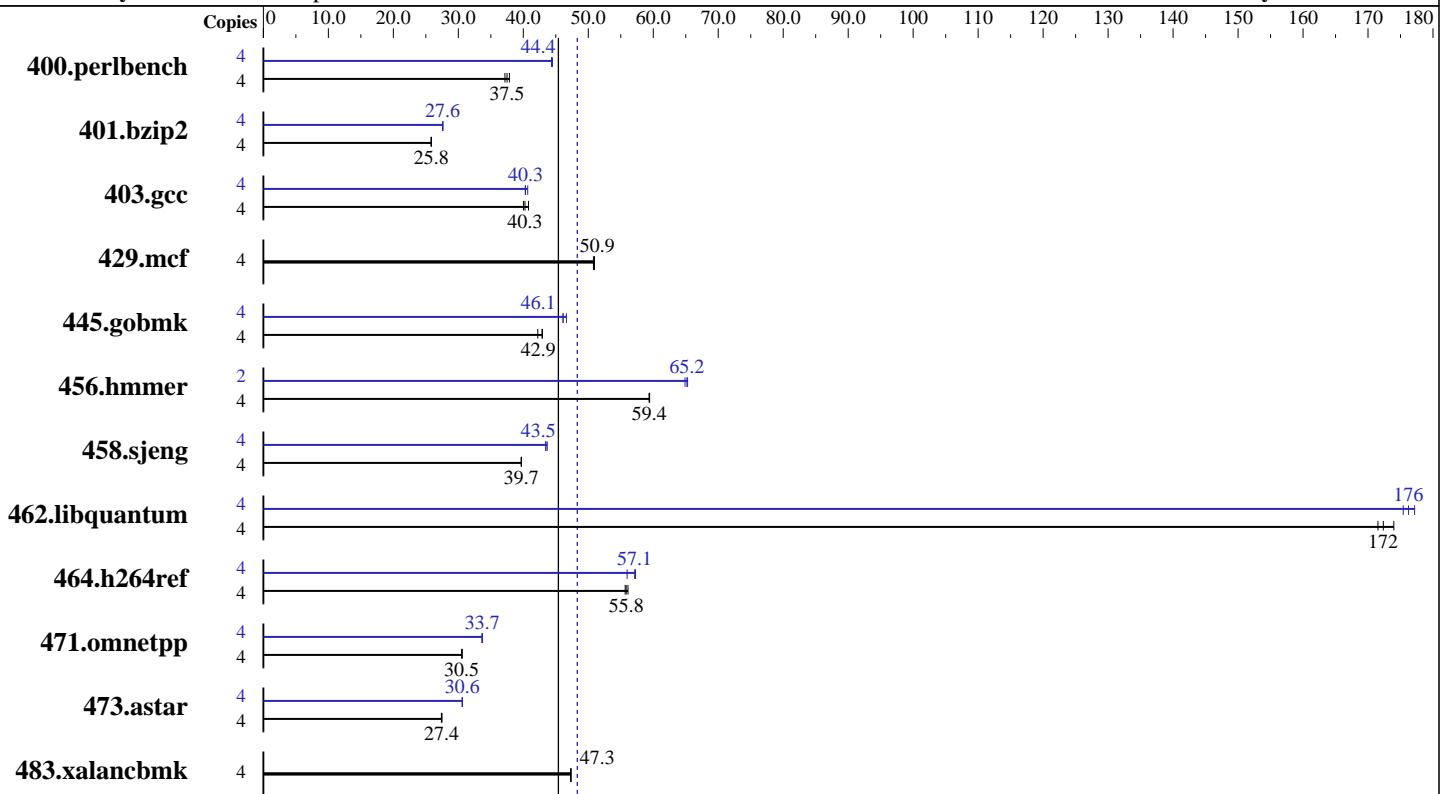SPECint_rate_base2006 = 45.4

CPU2006 license: 9006
Test sponsor: NEC Corporation
Tested by: NEC Corporation

Test date: Jun-2010
Hardware Availability: Apr-2010
Software Availability: Dec-2009

SPECint_rate_base2006 = 45.4
SPECint_rate2006 = 48.3

Hardware

CPU Name:	Intel Xeon L3406
CPU Characteristics:	Intel Turbo Boost Technology up to 2.53 GHz
CPU MHz:	2267
FPU:	Integrated
CPU(s) enabled:	2 cores, 1 chip, 2 cores/chip, 2 threads/core
CPU(s) orderable:	1 chip
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	256 KB I+D on chip per core
L3 Cache:	4 MB I+D on chip per chip
Other Cache:	None
Memory:	16 GB (4 x 4 GB PC3-10600E, 2 rank, CL9, ECC, running at 1066 MHz)
Disk Subsystem:	1x160 GB SATA, 7200 RPM
Other Hardware:	None

Software

Operating System:	SUSE Linux Enterprise Server 11 (x86_64), Kernel 2.6.27.19-5-default
Compiler:	Intel C++ Professional Compiler for IA32 and Intel 64, Version 11.1 Build 20091130 Package ID: l_cproc_p_11.1.064
Auto Parallel:	No
File System:	ext3
System State:	Run level 3 (multi-user)
Base Pointers:	32-bit
Peak Pointers:	32/64-bit
Other Software:	Microquill SmartHeap V8.1

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Results Table

Benchmark	Copies	Base Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Peak Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	4	1032	37.9	**1042**	**37.5**	1051	37.2	4	**881**	**44.4**	881	44.3	878	44.5
401.bzip2	4	1496	25.8	1492	25.9	**1493**	**25.8**	4	1399	27.6	1397	27.6	**1398**	**27.6**
403.gcc	4	**800**	**40.3**	805	40.0	789	40.8	4	792	40.7	799	40.3	**798**	**40.3**
429.mcf	4	**716**	**50.9**	716	50.9	718	50.8	4	**716**	**50.9**	716	50.9	718	50.8
445.gobmk	4	977	43.0	**979**	**42.9**	994	42.2	4	**910**	**46.1**	910	46.1	900	46.6
456.hmmer	4	**628**	**59.4**	628	59.4	629	59.4	2	286	65.3	288	64.9	**286**	**65.2**
458.sjeng	4	1220	39.7	1219	39.7	**1219**	**39.7**	4	1108	43.7	1114	43.5	**1113**	**43.5**
462.libquantum	4	483	172	**481**	**172**	476	174	4	**470**	**176**	472	175	468	177
464.h264ref	4	1590	55.7	1578	56.1	**1585**	**55.8**	4	**1549**	**57.1**	1546	57.3	1581	56.0
471.omnetpp	4	817	30.6	**819**	**30.5**	819	30.5	4	741	33.7	**742**	**33.7**	744	33.6
473.astar	4	**1023**	**27.4**	1022	27.5	1025	27.4	4	918	30.6	916	30.6	**918**	**30.6**
483.xalancbmk	4	583	47.3	**583**	**47.3**	583	47.3	4	583	47.3	**583**	**47.3**	583	47.3

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Submit Notes

    The config file option 'submit' was used.
     numactl was used to bind copies to the cores

Operating System Notes

     'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run

Platform Notes

    Default BIOS settings were used.

Base Compiler Invocation

C benchmarks:
     icc -m32

C++ benchmarks:
     icpc -m32

Base Portability Flags

    400.perlbench: -DSPEC_CPU_LINUX_IA32

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CPU2006 license: 9006
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Test date: Jun-2010
Hardware Availability: Apr-2010
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Base Portability Flags (Continued)

462.libquantum: `-DSPEC_CPU_LINUX`
483.xalancbmk: `-DSPEC_CPU_LINUX`

Base Optimization Flags

C benchmarks:
    `-xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch`

C++ benchmarks:
    `-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs`
    `-L/opt/SmartHeap_8.1/lib -lsmartheap`

Base Other Flags

C benchmarks:

        403.gcc: `-Dalloca=_alloca`

Peak Compiler Invocation

C benchmarks (except as noted below):
    `icc  -m32`

    401.bzip2: `icc -m64`

    456.hmmer: `icc -m64`

    458.sjeng: `icc -m64`

    462.libquantum: `icc -m64`

C++ benchmarks (except as noted below):
    `icpc -m32`

    473.astar: `icpc -m64`

Peak Portability Flags

400.perlbench: `-DSPEC_CPU_LINUX_IA32`
401.bzip2: `-DSPEC_CPU_LP64`
456.hmmer: `-DSPEC_CPU_LP64`

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SPECint_rate2006 =   48.3

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CPU2006 license: 9006	**Test date:**	Jun-2010
Test sponsor: NEC Corporation	**Hardware Availability:**	Apr-2010
Tested by: NEC Corporation	**Software Availability:**	Dec-2009

Peak Portability Flags (Continued)

```
         458.sjeng: -DSPEC_CPU_LP64
     462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
          473.astar: -DSPEC_CPU_LP64
      483.xalancbmk: -DSPEC_CPU_LINUX
```

Peak Optimization Flags

C benchmarks:

```
     400.perlbench: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
                    -O3(pass 2) -no-prec-div(pass 2) -static(pass 2)
                    -prof-use(pass 2) -ansi-alias

         401.bzip2: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
                    -O3(pass 2) -no-prec-div(pass 2) -static(pass 2)
                    -prof-use(pass 2) -opt-prefetch -ansi-alias -auto-ilp32

           403.gcc: -xSSE4.2 -ipo -O3 -no-prec-div -static

           429.mcf: basepeak = yes

         445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2) -O2
                    -ipo -no-prec-div -ansi-alias

        456.hmmer: -xSSE4.2 -ipo -O3 -no-prec-div -static -unroll2
                    -ansi-alias -auto-ilp32

         458.sjeng: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
                    -O3(pass 2) -no-prec-div(pass 2) -static(pass 2)
                    -prof-use(pass 2) -unroll4 -auto-ilp32

    462.libquantum: -xSSE4.2 -ipo -O3 -no-prec-div -static -auto-ilp32
                    -opt-prefetch

       464.h264ref: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
                    -O3(pass 2) -no-prec-div(pass 2) -static(pass 2)
                    -prof-use(pass 2) -unroll2 -ansi-alias
```

C++ benchmarks:

```
       471.omnetpp: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
                    -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
                    -ansi-alias -opt-ra-region-strategy=block -Wl,-z,muldefs
                    -L/opt/SmartHeap_8.1/lib -lsmartheap

          473.astar: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
                    -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
                    -ansi-alias -opt-ra-region-strategy=routine -Wl,-z,muldefs
                    -L/opt/SmartHeap_8.1/lib64 -lsmartheap64
```

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Peak Optimization Flags (Continued)

483.xalancbmk: basepeak = yes

Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

The flags file that was used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revE.20100609.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revE.20100609.xml

For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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